

Comparisons of Job Characteristics

Focus Occupation: [Engineers, All Other \(17-2199\)](#)

Associated Occupation: [Engineering Technicians, Except Drafters, All Other \(17-3029\)](#)

[Compare Knowledge](#)

[Compare Skills](#)

[Compare Abilities](#)

[Compare Detailed Work Activities](#)

[Compare Tools and Technologies](#)

<<	Focus occupation element is much lower
<	Focus occupation element is lower
0	Focus occupation element is at a similar level
>	Focus occupation element is at a higher level
>>	Focus occupation element is at a much higher level

Knowledge

Similarity of Focus Occupation to Associated Occupation: 97

Focus Occupation: Engineers, All Other (17-2199)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Associated Occupation's Key Knowledge Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Engineering and Technology	5.7	17.6	20.1	> Current knowledge level is likely sufficient
Mathematics	9.2	16.6	17.1	0 Current knowledge level may be sufficient
Mechanical	6.8	16.6	14.0	< Expanded education and/or training may be required
Computers and Electronics	8.4	16.2	15.0	0 Current knowledge level may be sufficient
Design	5.2	15.1	16.5	0 Current knowledge level may be sufficient
Production and Processing	6.0	13.3	12.9	0 Current knowledge level may be sufficient
Physics	4.3	12.9	14.8	> Current knowledge level is likely sufficient
Telecommunications	3.9	7.4	6.1	< Expanded education and/or training may be required

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Skills

Similarity of Focus Occupation to Associated Occupation: 64

Focus Occupation: Engineers, All Other (17-2199)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Associated Occupation's Key Skills Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating	Evaluation of Focus Occupation
Operation Monitoring	6.6	12.1	10.1	< A higher skill level may be required
Quality Control Analysis	5.9	11.5	9.7	< A higher skill level may be required
Mathematics	6.2	10.8	12.8	> Skill level is likely sufficient
Troubleshooting	4.5	10.6	7.8	<< Extensive development of skills in this area may be required
Equipment Maintenance	3.5	10.4	4.6	<< Extensive development of skills in this area may be required

Equipment Selection	3.3	9.4	6.3	<<	Extensive development of skills in this area may be required
Repairing	3.4	9.4	4.7	<<	Extensive development of skills in this area may be required
Technology Design	2.6	7.0	7.9	>	Skill level is likely sufficient
Installation	1.7	6.2	3.6	<<	Extensive development of skills in this area may be required
Programming	2.2	4.9	5.3	0	Current skill level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

Abilities

Similarity of Focus Occupation to Associated Occupation: 95

Focus Occupation: Engineers, All Other (17-2199)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Associated Occupation's Key Abilities Elements	Average Rating, All Occupations	Associated Occupation's Rating	Focus Occupation's Rating		Evaluation of Focus Occupation
Visualization	7.5	12.3	11.7	0	Current ability level may be sufficient
Information Ordering	9.9	12.0	13.2	0	Current ability level may be sufficient
Mathematical Reasoning	6.3	11.2	13.4	>	Current ability level is likely sufficient
Flexibility of Closure	7.8	10.5	9.9	0	Current ability level may be sufficient
Perceptual Speed	7.4	10.3	9.2	<	Some improvement in abilities may be required
Number Facility	6.3	10.2	11.6	>	Current ability level is likely sufficient
Visual Color Discrimination	6.4	9.6	8.6	<	Some improvement in abilities may be required
Memorization	5.6	7.5	7.3	0	Current ability level may be sufficient

The maximum possible rating is 25.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.

There are no common work activities.

Tools and Technologies that Both Occupations Have in Common

Similarity of Focus Occupation to Associated Occupation: 85

Focus Occupation: Engineers, All Other (17-2199)

Associated Occupation: Engineering Technicians, Except Drafters, All Other (17-3029)

Tools and Technologies	Exclusivity
Autoclave and sterilizer equipment and accessories	12
Business function specific software	1
Calculating machines and accessories	3
Chemical evaluation instruments and supplies	10
Computer data input devices	2
Computer printers	2
Computers	1

Content authoring and editing software	1
Content management software	6
Crystallography equipment	23
Cutting and crimping and punching tools	3
Data management and query software	1
Development software	4
Electrical measuring and testing equipment	7
Electrochemical measuring instruments and accessories	9
Electronic and communication measuring and testing instruments	14
Electronic manufacturing and processing machinery	56
Finance accounting and enterprise resource planning ERP software	2
Fluid mechanics equipment	11
Gas analyzers and monitors	10
Grinding and sanding and polishing equipment and supplies	40
Hydraulic presses	25
Indicating and recording instruments	2
Industry specific software	1
Information exchange software	1
Integrated circuits	18
Laboratory baths	24
Laboratory centrifuges and accessories	13
Laboratory decanting and distilling and evaporating and extracting equipment and supplies	19
Laboratory electron and solid state physics equipment	29
Laboratory enclosures and accessories	17
Laboratory environmental conditioning equipment	24
Laboratory furnaces and accessories	26
Laboratory heating and drying equipment	13
Laboratory incubating equipment	20
Laboratory ovens and accessories	15
Length and thickness and distance measuring instruments	2
Light and wave generating and measuring equipment	4
Liquid and gas flow measuring and observing instruments	15
Liquid and solid and elemental analyzers	19
Machine tools	7
Machinery for working wood and stone and ceramic and the like	12
Mechanical instruments	14
Metals and metallurgy and structural materials testing instruments	15
Miscellaneous optical components	51
Network applications software	1
Networking software	21
Non destructive examination equipment	13
Operating environment software	12
Power conditioning equipment	33
Power tools	2
Presterilization cleaning equipment and solutions	24
Rubber and plastic processing machinery and equipment and supplies	35
Soldering and brazing and welding machinery and supplies	6
Sound generating and measuring equipment	19

Spectroscopic equipment	10
Temperature and heat measuring instruments	6
Transducers	23
Viewing and observing instruments and accessories	4
Weight measuring instruments	7

Not all positions in these occupations will necessarily use all of the listed tools and technologies. The exclusivity rating is an indication of how unique the tool or technology is amongst all occupations. The maximum rating is 100. High scores indicate that only a small number of occupations use that tool or technology.

Source: Alaska Department of Labor and Workforce Development, Research and Analysis Section analysis of O*NET (Occupation Information Network) data.